



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,270	10/31/2003	Jacob Sharony	022.0143 (1553)	2040
29906	7590	05/21/2007		
INGRASSIA FISHER & LORENZ, P.C. 7150 E. CAMELBACK, STE. 325 SCOTTSDALE, AZ 85251			EXAMINER DEAN, RAYMOND S	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 05/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/699,270

Applicant(s)

SHARONY, JACOB

Examiner

Raymond S. Dean

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 9-12, 14-16, 18, 19, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 9-12, 14-16, 18, 19, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed March 8, 2007 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with Applicant's assertion on Page 10, 1st Paragraph "Flint is silent with respect to ...". One of the functions of a duplexer is to isolate the receive band from the transmit band thus enabling the simultaneous transmission of data on one band and reception of data on another band.

Examiner respectfully disagrees with Applicant's assertions that Examiner has not met all of the requirements of 35 U.S.C. 103(a) with regards to Moreton, Proctor, and Flint. During the contention free periods (CFPs) in Moreton the CSMA/CA mode is suspended. The CSMA/CA mode comprises the DCF thus the DCF will be suspended. The DCF consists of a basic mode as well as the optional RTS/CTS access mode. Since the DCF is suspended the basic mode and optional RTS/CTS mode is also suspended and thus there will be no reserving of the channel or band prior to data transmission. Proctor is cited for it's teaching of a smart antenna uni-directionally transmitting payload data. The combination of Moreton, Proctor, and Flint renders the "simultaneous use of two wireless bands" feature. The motivation to combine Moreton and Proctor comes from Proctor, which is to alleviate multipath fading. The motivation to combine Moreton and Proctor with Flint comes from Flint, which is enabling simultaneous communication in the 5 GHz and 2.4 GHz range.

Examiner respectfully disagrees with Applicant's assertion on Page 10 2nd Paragraph "the Moreton system would not operate as intended if it were modified ...". Moreton teaches a system for simultaneous use of 2.4 GHz and 5 GHz (See Section 0053) thus the modification would not render Moreton inoperable but, on the contrary, enhance the above simultaneous use feature of Moreton.

Examiner respectfully disagrees with Applicant's assertion regarding Claim 22 "As discussed above, Neither Moreton nor Flint ..." for the same reasons set forth above.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 4, 6, 9 – 12, 14 – 16, 18 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreton et al. (US 2004/0013128) in view of Proctor (US 2003/0048770) and in further view of Flint et al. (US 2003/0222823).

Regarding Claims 1,9, Moreton teaches a system for wireless communication utilizing a first wireless band and a second wireless band, comprising: a wireless access point device including a first dual-band wireless transceiver and a antenna (Figure 3, Sections 0053, 0061, and 0062), the wireless access point device being configured to

Art Unit: 2618

use the antenna to transmit downstream payload data to wireless mobile unit devices exclusively on the first wireless band during a time period, without having to reserve the first band prior to transmission and without sensing for communication activity on the first wireless band prior to transmission (Sections 0053, 0075, during the contention free periods (CFP) the CSMA/CA mode, which comprises the DCF, is suspended thus there will be no reserving of a band prior to transmission and no sensing for communication activity on the band prior to transmission); and a first wireless mobile unit device including a second dual-band wireless transceiver, the first wireless mobile unit device being configured to omni-directionally transmit its upstream payload data/acknowledgement data to acknowledge receipt of downstream payload data to the wireless access point exclusively using second wireless band during the time period (Figure 2, Sections 0057 lines 1 – 5, 0079 lines 4 – 5, 0080 lines 5 – 8, the 802.11 protocol comprises transmitting acknowledgements, the typical mobile devices in a WLAN have omni-directional antennas); and a second wireless mobile unit device including a third dual-band wireless transceiver, the second wireless mobile unit device being configured to omni-directionally transmit its upstream payload data to the wireless access point device exclusively on the second wireless band (Figure 2, Section 0057 lines 1 – 5, Figure 2 shows a plurality of STAs).

Moreton does not teach a smart antenna uni-directionally transmitting downstream payload data exclusively on a first band and transmitting upstream payload data to the wireless access point device exclusively on the second wireless band during

Art Unit: 2618

the time period and simultaneously with the transmission of downstream payload data by the wireless access point device.

Proctor teaches a smart antenna uni-directionally transmitting downstream payload on a band (Figure 1, Sections 0007 lines 10 – 13, 0008 lines 6 – 9, the antenna apparatus transmits and receives signals).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the antenna apparatus of Proctor as an alternative to the antennas of Moreton for the purpose of alleviating multipath fading as taught by Proctor.

Flint teaches transmitting payload data to a first wireless device exclusively on the second wireless band during a time period of transmission and simultaneously with the transmission of the payload data by the first wireless device (Section 0063, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual band AP of Moreton in view of Proctor with the dual band configuration taught above by Flint for the purpose of enabling simultaneous communication in the 5 GHz and 2.4 GHz band as taught by Flint.

Regarding Claim 16, Moreton teaches a wireless access point device, comprising: a dual-band wireless transceiver capable of wirelessly transmitting using first and second wireless bands (Figure 3, Sections 0053, 0061, and 0062); and a antenna (Figure 3), wherein respective downstream payload data is transmitted to a plurality of wireless mobile unit devices during a time period using the antenna and

Art Unit: 2618

exclusively on the first band without having to reserve the first band prior to the transmission of the downstream payload data and without sensing for communication activity on the first band prior to transmission (Sections 0053, 0075, during the contention free periods (CFP) the CSMA/CA mode, which comprises the DCF, is suspended thus there will be no reserving of a band prior to transmission and no sensing for communication activity on the band prior to transmission).

Moreton does not teach a smart antenna uni-directionally transmitting on the first band and wherein upstream payload data is simultaneously received from a plurality of wireless mobile unit devices during the time period using the smart antenna and exclusively on the second band.

Proctor teaches a smart antenna uni-directionally transmitting on a band (Figure 1, Sections 0007 lines 10 – 13, 0008 lines 6 – 9, the antenna apparatus transmits and receives signals).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the antenna apparatus of Proctor as an alternative to the antennas of Moreton for the purpose of alleviating multipath fading as taught by Proctor.

Flint teaches wherein payload data is simultaneously received during the time period of transmission using an antenna exclusively on the second band (Section 0063, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual band AP of Moreton in view of Proctor with the

Art Unit: 2618

dual band configuration taught above by Flint for the purpose of enabling simultaneous communication in the 5 GHz and 2.4 GHz band as taught by Flint.

Regarding Claims 2, 10, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 9. Moreton further teaches wherein the first wireless mobile unit device omni-directionally transmits its upstream payload data (Figure 2, Section 0057 lines 1 – 5, the typical mobile devices in a WLAN have omni-directional antennas), the first wireless mobile unit device reserving the second wireless band prior to transmission of its upstream payload data (Section 0084).

Regarding Claims 3, 11, 18, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 9, 16. Moreton further wherein the first wireless band is 5 GHz band and the second wireless band is a 2.4 GHz band (Section 0053).

Regarding Claims 4, 12, 19, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 1, 9, 16. Proctor further teaches wherein prior to uni-directionally transmitting the downstream payload to the first wireless mobile unit device data via the first wireless band, the wireless access point device determining location of the first mobile unit wireless device (Section 0039 lines 10 – 13).

Regarding Claims 6, 14, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claims 2, 9. Flint further teaches transmission of the payload data from the first wireless device to the second wireless device via the first wireless band and transmission of the further payload data from the

Art Unit: 2618

second wireless device to the first wireless device via the second wireless band are simultaneous (Section 0063, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band).

Regarding Claim 15, Moreton in view of Proctor and in further view of Flint teaches all of the claimed limitations recited in Claim 14. Proctor further teaches wherein coverage areas of the corresponding uni-directional and omni-directional transmissions are substantially similar (Section 0007 lines 1 – 4, the coverage of a typical adaptive antenna array can be adjusted such that the uni-directional coverage is substantially similar to the omni-directional coverage).

4. Claims 22 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moreton et al. (US 2004/0013128) in view of Flint et al. (US 2003/0222823).

Regarding Claim 22, Moreton teaches a method for wireless communications, comprising: a first wireless device transmitting downstream payload data addressed to a destination wireless device exclusively using a high frequency band during a time period (Figure 2, Sections 0053, 0058 – 0060), the downstream payload data being transmitted as a plurality of sequential downstream data transmissions (Section 0078, the frames comprise sequential data segments), the first wireless device transmitting the downstream payload data without having to make preparatory transmissions to reserve the high frequency band prior to transmission (Section 0075, during the contention free periods (CFP) the CSMA/CA mode, which comprises the DCF, is suspended thus there

Art Unit: 2618

will be no reserving of a band prior to transmission and no sensing for communication activity on the band prior to transmission).

Moreton does not teach during the time period and between two of the sequential downstream data transmissions, the first wireless device receiving respective upstream payload data from at least one additional wireless device exclusively using a low frequency band that does not overlap the high frequency band.

Flint teaches during a time period of transmission and between two of the sequential data transmissions, the first wireless device receiving respective upstream payload data from at least one additional wireless device exclusively using a low frequency band that does not overlap the high frequency band (Section 0063, typical 802.11 systems comprise sequential data transmissions, Flint teaches a configuration comprising a duplexer that enables the simultaneous transmission of data on the 5 GHz band and reception of data on the 2.4 GHz band)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dual band AP of Moreton with the dual band configuration taught above by Flint for the purpose of enabling simultaneous communication in the 5 GHz and 2.4 GHz band as taught by Flint.

Regarding Claim 23, Moreton in view of Flint teaches all of the claimed limitations recited in Claim 22. Moreton further teaches during the time period and between two of the sequential downstream data transmissions, the first wireless device receiving upstream acknowledgment data from the destination wireless device, the upstream acknowledgement data acknowledging receipt of downstream payload data by the

Art Unit: 2618

destination wireless device (Section 0080 lines 5 – 8); and during the time period and between two of the sequential downstream data transmissions, the first wireless device transmitting downstream acknowledgement data to the at least one additional wireless device, the downstream acknowledgment data acknowledging receipt of the upstream payload data by the first wireless device (Section 0080 lines 5 – 8).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

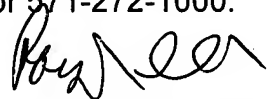
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Raymond S. Dean
May 8, 2007



EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600